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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/765,054	01/18/2001	David Allen Olaker	65403	7692

7590 03/26/2004

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EXAMINER	
ZHENG, EVA Y	
ART UNIT	**PAPER NUMBER**
2634	

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/765,054	OLAKER, DAVID ALLEN	
	Examiner	Art Unit	
	Eva Yi Zheng	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 January 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-12,15,16,19-32 and 34-44* is/are rejected.

7)☒ Claim(s) *2,3,13,14,17,18 and 33* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 4.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: on page 11, line 32, phrase: "FIG.7" should be changed to --FIG. 1 --.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 4-12, 15, 16, 19-32 and 34-44 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshida et al. (5,170,415).

a) Regarding claim 1, Yoshida et al. disclose a receiver for a spread spectrum burst signal having a predetermined period comprising:

a time invariant matched filter (21i and 21q in Fig.3) for comparing an input signal to at least one reference signal based upon a pseudo-noise (PN) code and providing a stream of data values (Col 4, L46-62);

a threshold comparator (28 in Fig. 3) for comparing each of the data values to a threshold to determine an acquisition time for the spread spectrum burst signal (Col 5, L60-68);

a contrast filter (27 in Fig. 3) connected between said time invariant matched filter and said threshold comparator for varying the threshold based upon an interference level to reduce instances of false acquisition detections; and

a window sampler (10i and 10q in Fig. 1) for selectively sampling the data values based upon the acquisition time and the predetermined period (Col 3, L66- Col 4, L2).

b) Regarding claim 16, Yoshida et al. disclose a receiver for a spread spectrum burst

signal having a predetermined period comprising:

a time invariant matched filter (21i and 21q in Fig.3) for comparing an input signal to at least one reference signal based upon a pseudo-noise (PN) code and providing a stream of data values (Col 4, L46-62);

a threshold comparator (28 in Fig. 3) for comparing each of the data values to a threshold to determine an acquisition time for the spread spectrum burst signal (Col 5, L60-68); and

a contrast filter (27 in Fig. 3) connected between said time invariant matched filter and said threshold comparator for varying the threshold based upon an interference level to reduce instances of false acquisition detections.

c) Regarding claim 22, Yoshida et al. disclose a receiver for a spread spectrum burst signal having a predetermined period comprising:

a time invariant matched filter (21i and 21q in Fig.3) for comparing an input signal to at least one reference signal based upon a pseudo-noise (PN) code and providing a stream of data values (Col 4, L46-62);

a threshold comparator (28 in Fig. 3) for comparing each of the data values to a threshold to determine an acquisition time for the spread spectrum burst signal (Col 5, L60-68); and

a window sampler (10i and 10q in Fig. 1) for selectively sampling the data values based upon the acquisition time and the predetermined period (Col 3, L66- Col 4, L2).

d) Claims 28, 32, 37 and 42 meet all the limitations that taught by Yoshida et al. described above.

e) Regarding claims 4, 19, 29, 34 and 43, Yoshida et al. disclose the receiver wherein said input signal comprises in-phase (I) and quadrature (Q) values (Fig. 1); and wherein said time invariant matched filter (21i and 21q in Fig.3) compares the I and Q values of the input signal to I and Q values of the at least one reference signal (20 in Fig. 3) and provides a stream of I and Q data values (as shown in Fig. 3).

f) Regarding claims 5, 20 and 35, Yoshida et al. disclose the receiver further comprising a magnitude converter (25i and 25q in Fig. 3) connected between said time invariant matched filter and said contrast filter for converting I and Q data values into a magnitude data value (as shown in Fig. 4).

g) Regarding claim 6, 23 and 38, Yoshida et al. disclose the receiver further comprising a counter (14 in Fig. 1) connected to said threshold comparator for generating an acquisition count based upon the acquisition time (Col 3, L32-42).

h) Regarding claims 7 and 24, Yoshida et al. disclose a window controller (7i, 7q, 8i and 8q in Fig.1) connected to said counter (14 in Fig. 1) and generating a window strobe signal for controlling said window sampler (10i and 10q in Fig. 1).

i) Regarding claims 8, 25 and 39, Yoshida et al. disclose the receiver further comprising:

a memory (41i and 41q in Fig. 7) connected to said window sampler for storing the data values (Col 6, L54-55); and

a processor (42-1 in Fig. 7) connected to said memory for processing the stored data values (Col 6, L43 - C7, L30).

j) Regarding claims 9, 26 and 40, Yoshida et al. disclose the receiver wherein said processor performs non-real time processing of the stored data values (as shown in Fig. 7; Col 6, L43 - C7, L30).

k) Regarding claim 10, Yoshida et al. disclose the receiver wherein the stream of data values comprises a complex stream of data values based upon a degree and phase of one reference signal (21i, 21q and 20 in Fig. 3).

l) Regarding claims 11, 21, 27, 30, 36, 41 and 44, Yoshida et al. disclose the receiver wherein said time invariant matched filter continuously searches over at least one of time, frequency, phase, and PN code alignments (Col 4, L46-62).

m) Regarding claim 12 and 31, Yoshida et al. disclose the receiver wherein said time invariant matched filter comprises a discrete time, discrete amplitude device implementing a complex arithmetic cross correlation function (Col 4, L 46-51).

n) Regarding claim 15, Yoshida et al. disclose the receiver further comprising an analog-to-digital (A/D) converter (4i and 4q in Fig. 1) upstream from said time invariant matched filter (as shown in Fig.1).

4. Claim 28 and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Andren et al. (5,883,921).

a) Regarding claim 28, Andren et al. disclose a receiver for a spread spectrum burst signal having a predetermined period comprising:

a time invariant matched filter (16/18 in Fig.2) for comparing an input signal to at least one reference signal based upon a pseudo-noise (PN) code and providing a complex stream of data values based upon a degree and phase of correlation between the input signal and the at least one reference signal (Col 4, L11-24); and

a threshold comparator (block 30 in Fig. 2) for comparing each of the data values to a threshold to determine an acquisition time for the spread spectrum burst signal (Col 3, L40-51).

b) Regarding claim 42, Andren et al. disclose a method for receiving a spread spectrum burst signal having a predetermined period comprising:

comparing an input signal to at least one reference signal based upon a pseudo-noise (PN) code (16/18 in Fig.2) (Col 4, L11-24);

providing a complex stream of data values based upon a degree and phase of correlation between the input signal and the at least one reference signal (20 in Fig. 2); and

comparing each of the data values to a threshold to determine an acquisition time for the spread spectrum burst signal (Col 3, L40-51).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 16, 32 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andren et al. (5,883,921).

a) Regarding claim 16, Andren et al. disclose a time invariant matched filter (16/18 in Fig.2) for comparing an input signal to at least one reference signal based upon a pseudo-noise (PN) code and providing a stream of data values (Col 4, L11-24);and

a threshold comparator (block 30 in Fig. 2) for comparing each of the data values to a threshold to determine an acquisition time for the spread spectrum burst signal (Col 3, L40-51).

Andren et al. disclose all of the subject matter as described above except for the specific teaching of a contrast filter. However, instead of a contrast filter, Andren et al. disclose a symbol timing circuit (34 in Fig. 2) for determination of symbol timing and bit sync amplitude (Col 3, L59-64), and is an equivalent structure known in the art.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to recognize the equivalence of the two circuits, and to substitute the symbol timing circuit in Andren et al.'s system for a contrast filter for the same function output.

b) Regarding claim 32, Andren et al. disclose amethod for receiving a spread spectrum burst signal having a predetermined period comprising:

comparing an input signal to at least one reference signal based upon a pseudo-noise (PN) code and providing a stream of data values (16/18 in Fig.2) (Col 4, L11-24);

comparing each of the stream of data values to a threshold (block 30 in Fig. 2) to determine an acquisition time for the spread spectrum burst signal (Col 3, L40-51); and

Andren et al. disclose all of the subject matter as described above except for the specific teaching of varying the threshold based upon an interference level to reduce instances of false acquisition detections. However, Andren et al. disclose a symbol timing circuit (34 in Fig. 2) for determination of symbol timing and bit sync amplitude (Col 3, L59-64), and is an equivalent structure known in the art.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to recognize the equivalence of the two functions, and to substitute the symbol timing circuit in Andren et al.'s system for varying the threshold values.

Allowable Subject Matter

7. Claims 2, 3, 13, 14, 17, 18 and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eva Yi Zheng whose telephone number is 703-305-8699. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-879-9306.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Eva Yi Zheng
Examiner
Art Unit 2634

March 10, 2004

SHUWANG LIU
PRIMARY EXAMINER